

CLAIMS

1. A brake system for a linear actuator, comprising:  
a guide rail;  
5 a table including a slider which is guided by said guide rail for a motion along a length of said guide rail, said slider comprising a moveable slide block that is adapted to slide along a surface of said guide rail and is supported by said slider so as to be moveable toward and  
10 away from said guide rail surface;  
a linear motor for actuating said table along said guide rail; and  
a power actuator for selectively moving said moveable slide block toward said guide rail surface;  
15 said moveable slide block sliding over said guide rail surface for a guiding action in a first state of said power actuator and bearing upon said guide rail surface for a braking action in a second state of said power actuator.
- 20 2. A brake system for a linear actuator according to claim 1, wherein said power actuator comprises a solenoid device for moving said slide block toward said guide rail surface when energized and a spring member for moving said slide block away from said guide rail surface when said  
25 solenoid device deenergized.

3. A brake system for a linear actuator according to claim 1, wherein said power actuator comprises a solenoid device for moving said slide block away from said guide rail surface when energized and a spring member for moving  
5 said slide block toward said guide rail surface when said solenoid device deenergized.

4. A brake system for a linear actuator according to claim 1, wherein said guide rail comprises a pair of  
10 mutually parallel guide rail members, and said table comprises a pair of laterally arranged sliders in a corresponding manner.

5. A brake system for a linear actuator according to  
15 claim 4, wherein each of said guide rail members is provided with an upper surface and a pair of side surfaces each forming an acute angle with respect to said upper surface, and one of said sliders is provided with a bottom surface engaging said upper surface, a fixed slide block  
20 engaging one of said side surfaces while said moveable slide block engaging the other of said side surfaces.

6. A brake system for a linear actuator according to claim 5, wherein the other of said sliders is provided with a bottom surface engaging said upper surface, a pair of fixed slide blocks engaging the corresponding side surfaces  
5 of said guide rail.

7. A brake system for a linear actuator according to claim 6, wherein said sliders are dimensioned in such a manner that when said power actuator is in said second  
10 state, said moveable slide block of said one slider and one of the fixed slide blocks of said other slider which is located in a symmetric position to said moveable slide block bear upon the corresponding side surfaces of said guide rail.

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8. A brake system for a linear actuator according to claim 1, wherein a bearing member is interposed between said slide block and guide rail surface.

20 9. A brake system for a linear actuator according to claim 8, wherein said bearing member has a static frictional coefficient in the range of 0.15 to 0.25 with respect to the opposing surface.

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10. A brake system for a linear actuator according to claim 8, wherein said bearing member comprises a porous carbon material prepared by sintering a mixture of plant-base carbon and phenol resin.

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